

Title	Study on Aromatic Stibonic Acid. (V) : Preparation of the Arylstibonic Acid Derivatives
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It will be worth to note that only a trace of pigment was produced in organic media such as Bouillon, yeast water etc., although abundant growth of the bacteria was observed in these media, and that growth of bacteria and the formation of pyocyanine were accelerated by the culture under aeration.

27. Study on Aromatic Stibonic Acid. (V)

Preparation of the Arylstibonic Acid Derivatives

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It has been reported that the phenylstibonic acid is obtained by the decomposition of the benzenediazonium tetrachloroantimonite complex in various organic solvents.* The influences of the substitution group on the decomposition reaction of the complex salts were examined.

Adding a concentrated hydrochloric acid solution of antimony trichloride to the p-methylbenzenediazonium chloride, the p-methyl derivative of the complex $[\text{CH}_3\text{C}_6\text{H}_4\text{N}_2] \text{SbCl}_4$ was obtained as a yellow fine crystal (yield 92%). In alkaline solution, p-methyl derivative decomposed at 56°C, to p-chlorotoluene (49%), toluene (17.4%) and small amount of biphenyl derivatives. In the presence of Cu_2Cl_2 , however, the chief product was p-tolylstibonic acid (87%).

p-Methoxybenzenediazonium tetrachloroantimonite complex was prepared from p-anisidine and antimony trichloride, by a similar method and obtained a deep yellow fine crystal, $[\text{CH}_3\text{OC}_6\text{H}_4\text{N}_2] \text{SbCl}_4$ (yield 70%). The methoxy derivatives decomposed in acetone solution at 56°C, to p-chloroanisole (54%) and anisole (17%), but in the presence of Cu_2Cl_2 , p-anisylstibonic acid was separated as the main product (52%). p-Nitroaniline was converted to the corresponding complex compound $[\text{NO}_2\text{C}_6\text{H}_4\text{N}_2] \text{SbCl}_4$, as an orange precipitate with the yield of 88%. The decomposition of the p-nitro derivative in alkaline solution occurred at -5~0°C and p-nitrophenylstibonic acid (70%) and resinous matter were liberated. The nitro complex in acetone solution decomposed at 15°C, to nitrobenzene (12%), p-chloro-nitrobenzene (52%) and with comparatively large amount of resinous matter and in the presence of Cu_2Cl_2 , the chief product was p-nitrophenylstibonic acid with the yield of 55%. From the above results it is conceivable that p-methyl group favours to the formation of arylstibonic acid, while p-methoxy and p-nitro group are not favourable as they accompany with the resinification.

* Tomono: This Bulletin, 21 41, 22 49.